



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 4

61 Forsyth Street, SW  
Atlanta, GA 30303-8960

September 17, 2018

**MEMORANDUM**

**SUBJECT:** Future Vapor Intrusion Sampling Recommendations,  
Patterson Street Vapor Intrusion Study,  
Greensboro, North Carolina

**FROM:** Sydney Chan, Life Scientist *SKC*  
Scientific Support Section

**TO:** Perry Gaughan, OSC  
Emergency Response, Removal, and Prevention Branch

**THRU:** Glenn Adams, Chief *GA*  
Scientific Support Section

Per your request, the Scientific Support Section (SSS) has reviewed the data collected during the August 2018 sampling event. Based on review of the data, the following observations are provided for your consideration.

A combination of samples collected from ambient air, indoor air, crawl space/sub-slab and surface water were reviewed to further understand the potential for vapor intrusion along Camborne Street and Swan Street. To properly evaluate the potential risk for vapor intrusion, sub-slab/crawlspace, indoor air, and ambient air samples within/surrounding the area in question should be obtained. Due to access restrictions, indoor air samples were only able to be collected in two houses along Camborne Street. Within the two houses, there were contaminants detected above levels of concern with some thought to be site-related and others pointing to an indoor source.

Results of indoor air and crawlspace data collected at 2837 Camborne Street conclude that none of the constituents detected indoors above residential Regional Screening Levels (RSL) are due to site-related contamination. Results of indoor air and sub-slab data collected at 2835 Camborne Street conclude that benzene detected in the indoor air may be site-related but the other constituents detected above residential RSLs are not a result from site-related contamination.

Concentrations detected of 2-propanol at 2835 Camborne Street are above residential Removal Management Levels (RML). Within the home, 2-propanol was detected at 716  $\mu\text{g}/\text{m}^3$  and 688  $\mu\text{g}/\text{m}^3$ . The residential RML for 2-propanol is 626  $\mu\text{g}/\text{m}^3$ . Sub-slab and ambient air data collected near the house had detections of 4.84  $\mu\text{g}/\text{m}^3$  and non-detect at 2.46  $\mu\text{g}/\text{m}^3$ , respectively. These low concentrations support that 2-propanol is not thought to be a site-related contaminant and is off-gassing from an indoor source. 2-propanol is a common indoor source

that could be from isopropyl alcohol, common cleaning supplies, and glues. SSS reached out to Beth Dittman (919-707-5900) with the North Carolina Department of Health and Human Services to inform her of the situation. If concerned about potential health issues, the resident can call Beth.

Crawlspace data obtained from 2830 Camborne Street resulted in trichloroethene above residential RSLs at 4 µg/m<sup>3</sup>. This concentration is above the residential RML for sensitive sub-populations. Due to access restrictions, indoor air was not collected. Because there is no attenuation factor for crawlspace air to indoor air, it is assumed a 1:1 ratio. Information provided to SSS states that the house is currently vacant. If the status of the house changes, it is recommended to sample indoor air. Crawlspace and ambient air should also be re-sampled at that time.

Surface water within a drainage ditch running through Camborne Street and Swan Street was analyzed during the sampling event, resulting in elevated levels of VOCs, particularly tetrachloroethene, trichloroethylene and their break-down products. Due to the elevated concentrations within the drainage ditch, it is recommended to collect indoor air, sub-slab/crawlspace, and ambient air in houses on either side of the drainage pathway. It is also recommended to continue to obtain access to the previously identified houses on Camborne Street and Swan Street (2836, 2834, 2830, 2833 Camborne Street and 1412, 1419 Swan Street).

There are no current actions needed, but further sampling of air, groundwater, and surface water is recommended to determine potential exposures and sources of contamination. Please contact me at 404-562-8907 or [chan.sydney@epa.gov](mailto:chan.sydney@epa.gov) if you have any comments or questions regarding this review.